

A REVIEW OF THE NEOTROPICAL GENUS *DIFUNDELLA* DYAR
(LEPIDOPTERA: PYRALIDAE: PHYCITINAE)

H. H. NEUNZIG AND M. A. SOLIS

(HHN) Department of Entomology, North Carolina State University, Raleigh, NC 27695-7613, U.S.A.; (MAS) Systematic Entomology Laboratory, PSI, Agricultural Research Service, U.S. Department of Agriculture, % National Museum of Natural History, Smithsonian Institution P.O. Box 37012, MRC 168, Washington, DC, 20013-7012, U.S.A. (e-mail: asolis@sel.barc.usda.gov)

Abstract.—The genus *Difundella* is redescribed. Seven species are recognized as belonging to the genus: *D. cancerella* n. sp., *D. corynophora* Dyar, *D. dumiella* Neunzig and Dow, *D. parana* n. sp., *D. subsutella* (Schaus), *D. teresina* n. sp., and *D. unguifera* n. sp. A key to species based on male adults is included. *Difundella* is compared to the similar genera *Nefundella* Neunzig, *Coptarthria* Ragonot, and *Rampylla* Dyar.

Key Words: Brazil, Costa Rica, *Nefundella*, *Coptarthria*, *Rampylla*

H. G. Dyar at the United States National Museum had access to a large series of mostly previously unseen Neotropical Lepidoptera as a result of a Smithsonian Institution biological survey of the Panama Canal Zone early in the twentieth century. Some of the specimens he studied were pyralids belonging to the large subfamily Phycitinae. In his 1914 paper, Dyar recognized 52 genera as belonging to what he considered to be the subfamily, one of which was the new genus *Difundella* proposed by him to accommodate his new species *corynophora*. Heinrich (1956) included *Difundella* in his revision of the American phycitines, and placed three more species in the genus, namely, *subsutella* Schaus and two new species, *distractor* and *tolerata*. The assignment of the two new species to *Difundella* was tentative. Heinrich (1956: 62) wrote “The second group [*distractor* and *tolerata*] probably deserves a separate generic designation; but the material is too scanty and not in good enough condition, and the association of females with their proper

males too uncertain, to permit evaluation of generic characters for separation at this time.” Neunzig (1986), following the examination of specimens collected since Heinrich’s study, proposed the new genus *Nefundella* for *distractor* and *tolerata*, thereby reducing the number of species in *Difundella* to two. Subsequently, in 1993, Neunzig and Dow, in their treatment of the Phycitinae of Belize, added another species, *dumiella*, to *Difundella*.

As a result of additional collecting in Costa Rica and Brazil, four more species of *Difundella* have come to light. The discovery of this new material makes it appropriate to review the genus at this time.

Specimens studied came from the following sources: Instituto Nacional de Biodiversidad, Santo Domingo, Costa Rica [IN-Bio]; North Carolina State University Insect Collection, Raleigh, North Carolina, USA [NCSU]; National Museum of Natural History, Smithsonian Institution, Washington, D.C., U.S.A. [USNM]; and the collection of Vitor O. Becker, Universidade de Brasília, Brasília, Brasil [VOB].

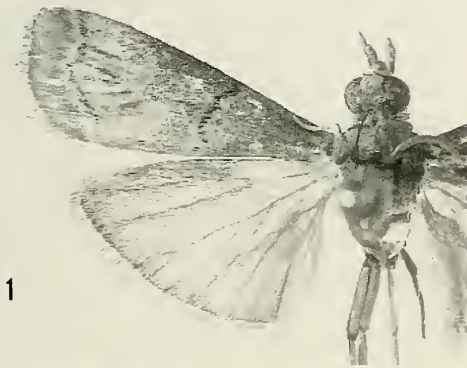
Difundella Dyar

Difundella Dyar 1914:327. Type species: *Difundella corynophora* Dyar, 1914, original designation.

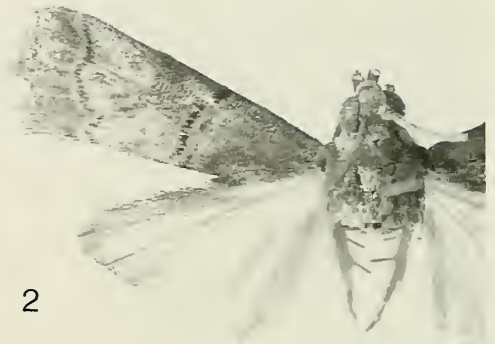
Description.—*Head*: Antenna of male slightly enlarged and flattened along basal half of shaft; sensilla trichodea (cilia) abundant, short (about $\frac{1}{6}$ to $\frac{1}{5}$ as long as width of antenna near base of shaft). Antenna of female simple. Labial palpus of male upturned, extending above vertex; segment III about $\frac{1}{2}$ as long as II (*unguifera* with palpus shorter, with segment III about $\frac{1}{3}$ as long as II). Maxillary palpus of both sexes short-scaled. Haustellum well developed. Ocellus present. *Prothorax*: With anteroventral, partially black, contrasting bib near head. *Forewing*: Upper surface with basal and subbasal parts and inverted triangular area closely following antemedial line dark reddish brown, purplish brown, purple, or black; most of rest of wing pale (pale reddish brown and ochre); antemedial and postmedial lines weakly developed, pale reddish brown and ochre; narrow, dark reddish brown to black lines bordering antemedial and postmedial lines (lines distally bordering antemedial line and proximally bordering postmedial line most strongly developed); area between antemedial and postmedial lines usually with black or dark brown streaks on veins M_1 to CuA_2 , and fused ochre to reddish-brown discal spots; basal third of posterior margin of wing with red to black posteriorly—projecting tuft of scales; basal half of costa of forewing slightly convex (base of costa strongly produced anteriorly in male of *unguifera*); underside of wing of male without contrastingly colored sex-scales; wing with 11 veins; R_{3+4} and R_5 fused for about $\frac{1}{2}$ their lengths beyond cell; M_1 straight; M_2 and M_3 approximate at base; CuA_1 from posterodistal angle of cell; CuA_2 from well before posterodistal angle of cell. *Hindwing*: Hyaline to brown; with 8 veins (1A, 2A and 3A treated as one vein); $Sc + R_1$ and Rs fused for about $\frac{1}{2}$ distance beyond cell; M_2

and M_3 fused for about $\frac{3}{4}$ distance beyond cell; CuA_1 fused to base of stalk of M_2 and M_3 ; CuA_2 from before posterodistal angle of cell; 1A usually abruptly bent in basal half; underside of male wing with small cluster of thin, usually hooked scales near discal vein, raised, elongate-oval patch of sex-scales near 1A, and anal fold along 3A enclosing a scale pencil (no elongate-oval patch on *unguifera*, and both small cluster of scales and elongate-oval patch absent in *cancerella* and *dumiella*); cell short ($\frac{1}{3}$ or less length of wing). Male abdominal segment 8 developed as narrow pocket, without scale tuft. *Male genitalia*: Uncus well developed with posterior margin usually weakly pointed (uncus distally bifurcate in *corynophora*), basolateral aspects of uncus usually simple (clawlike in *unguifera* and *cancerella*); gnathos greatly reduced, without well developed median process; transtilla absent; juxta a triangular plate with setiferous lobes or setal patches; valva slender basally, broadened and with spinelike setae distally; sacculus strongly sclerotized, developed into long, hooked process (process short in *subsutella*) and with strong tuft of scalelike setae basally; aedoeagus either simple, serrate, spined, or forked; vesica simple, scobinate, or with small cornuti; vinculum slightly longer than greatest width. *Female genitalia*: Posterior part compact; apophysis posterioris short and slender; apophysis anterioris stubby (extending only slightly beyond ostium bursae, and usually more robust than apophysis posterioris); ostium bursae with wide, sclerotized plate and many microspines (intersegmental area dorsal of this plate with pair of pockets); ductus bursae shorter than, to about as long as, corpus bursae, usually membranous (*cancerella* with microspines in posterior half); corpus bursae oval with signum a patch of microspines or scobinations; ductus seminalis attached to corpus bursae near junction of ductus bursae and corpus bursae.

Comparison to similar genera.—Species belonging to the genera *Nefundella*, *Coptarthria* Ragonot, and *Rampylla* Dyar have



1



2



3



4

Figs. 1-4. Males, dorsal view. 1, *Difundella corynophora*. 2, *D. dumiella*. 3, *D. unguifera*. 4, *D. cancerella*.

forewings whose color and maculation resemble those of *Difundella*, but male genitalic features separate the groups. Species of *Nefundella* differ most noticeably from those of *Difundella* in having a costal process on the valva (absent in *Difundella*). The male genitalia of *Coptarthria* and *Rampylla* have an unusual juxta bearing a long weakly attached spine, a feature absent in *Difundella* and most other phycitines.

The immature stages of *Difundella* and their hosts are unknown.

KEY TO SPECIES OF MALE *DIFUNDELLA*

- 1. Uncus with apex bifurcate (Fig. 12); aedoeagus forked (Fig. 13) *corynophora* Dyar
- Uncus with apex entire (Figs. 14, 16, 18, 20, 22, 24); aedoeagus not forked (Figs. 15, 17, 19, 21, 23, 25) 2
- 2. Base of uncus with medially projecting clawlike processes (Figs. 20, 22) 3
- Base of uncus without medially projecting clawlike processes (Figs. 14, 16, 18, 24) 4

- 3. Each clawlike process of uncus biramous (Fig. 20) *cancerella* Neunzig and Solis
- Each clawlike process of uncus simple (Fig. 22) *unguifera* Neunzig and Solis
- 4. Aedoeagus with large, sclerotized process composed of overlapping, contiguous curved spines (Fig. 15) *subsutella* (Schaus)
- Aedoeagus without large, sclerotized process composed of overlapping, contiguous spines 5
- 5. Hooklike process of sacculus broadened distally (Fig. 18) *parana* Neunzig and Solis
- Hooklike process of sacculus slender distally (Figs. 16, 24) 6
- 6. Juxta with large posteriorly projecting lobes (Fig. 24); process of sacculus strongly bent in distal half (Fig. 24) *teresina* Neunzig and Solis
- Juxta without large posteriorly projecting lobes (Fig. 16); process of sacculus weakly bent in distal half (Fig. 16) *dumiella* Neunzig and Dow

Difundella corynophora Dyar
(Figs. 1, 8-13, 26)

Difundella corynophora Dyar 1914:327.

Males of *D. corynophora* have the apex of the uncus bifurcate, the distal end of the arm of the sacculus very broad, and the aedeagus uniquely forked (Figs. 12–13). Females have a wide oblong plate associated with the ostium bursae and the signum of the corpus bursae is a small, round patch of scobinations (Fig. 26).

The vertex of *D. corynophora* is ochre anteriorly to pale reddish brown, or dark purplish brown posteriorly, and the forewing is mostly dark reddish brown and dark purplish brown on its basal three-fifths and chiefly ochre and pale reddish brown on its distal two-fifths. The underside of the male hindwing has a small cluster of thin, mostly hooked scales near the short discal vein at the distal end of the discal cell, and an elongate-oval patch of raised sex-scales near 1A (Fig. 8). The forewing length is 7.5–8.5 mm.

Material examined.—Mexico, 4 km. S. Estación Palenque, Chiapas, 25 July 1984, H. H. Neunzig and K. M. Neunzig, genitalia slide 1000 HHN (1 ♂) [NCSU]; Guatemala, Cayuga, August, Schaus and Barnes (1 ♀) [USNM], Chejel, June, Schaus and Barnes, genitalia slide 102, 100 ME (1 ♀) [USNM]; Costa Rica, Sector Cerro Cocori, Finca de E. Rojas, 150 m., Provincia Limon, Set. 1993, E. Rojas, LN 286000, 567500, #2347, INBio CR I001140900, I001141147, genitalia slides 5834, 5835 HHN (2 ♂) [INBio]; Panama, La Chorrera, 12 May 1912, A. Busck, genitalia slide 102, 099 CH (♂ holotype) [USNM]; French Guiana, Cayenne, [no date], [no collector's name], genitalia slide 102, 101 ME (1 ♂) [USNM].

Difundella subsutella (Schaus)
(Figs. 5, 14–15)

Ulophora subsutella Schaus 1913: 248.

Difundella subsutella: Heinrich 1956: 63.

The most useful feature to identify *D. subsutella* is its aedeagus, which bears distally a large, sclerotized process composed

of a series of overlapping, contiguous, curved spines (Fig. 15).

Difundella subsutella is known from the male type (Fig. 5) and one other male. The species appears to be most similar in color and maculation to *D. corynophora*. The vertex is ochre to pale reddish brown, and the forewing slightly darker than the forewing of *D. corynophora* with purplish brown distally. The underside of the hindwing has a small cluster of thin, hooked scales along the short, discal vein at the distal end of the discal cell, and an elongate-oval patch of raised sex-scales near 1A. The forewing length is 7.0–8.0 mm.

Material examined.—Costa Rica, Juan Viñas, January, [no collector's name, probably Schaus], genitalia slide 102, 102 CH (♂ holotype) [USNM]; Costa Rica, Turrialba, Estación Barbilla, P. N. Barbilla, R. E. Rio Pacuare, 500 m., Prov. Cartago, Ene. 2002, L. Charrfa, L. N. 218279–596287, #66503, INBio CR INB0003417093, genitalia slide 6195 HHN (1 ♂) [INBio].

Difundella dumiella Neunzig and Dow
(Figs. 2, 16–17)

Difundella dumiella Neunzig and Dow 1993:32.

Difundella dumiella has the uncus oval with anteriorly projecting, sinuous, blunt-pointed processes, and a juxta with setiferous elements completely fused into the sides of a triangular plate. The aedeagus is elongate with a vesica bearing about five cornuti. *Difundella dumiella* also appears to be smaller than other *Difundella*, having a forewing length of 6.0–6.5 mm.

The vertex of the male is white and pale reddish brown and the forewing mostly dark reddish brown and purple basally and mostly ochre and white distally. The underside of the hindwing lacks both the small cluster of hooked scales along the short, discal vein at the distal end of the discal cell, and the elongate-oval patch of raised sex-scales near 1A that are present in most *Difundella*.



Figs. 5–7. Males, dorsal view. 5, *Difundella subsutella*. 6, *D. parana*. 7, *D. teresina*.

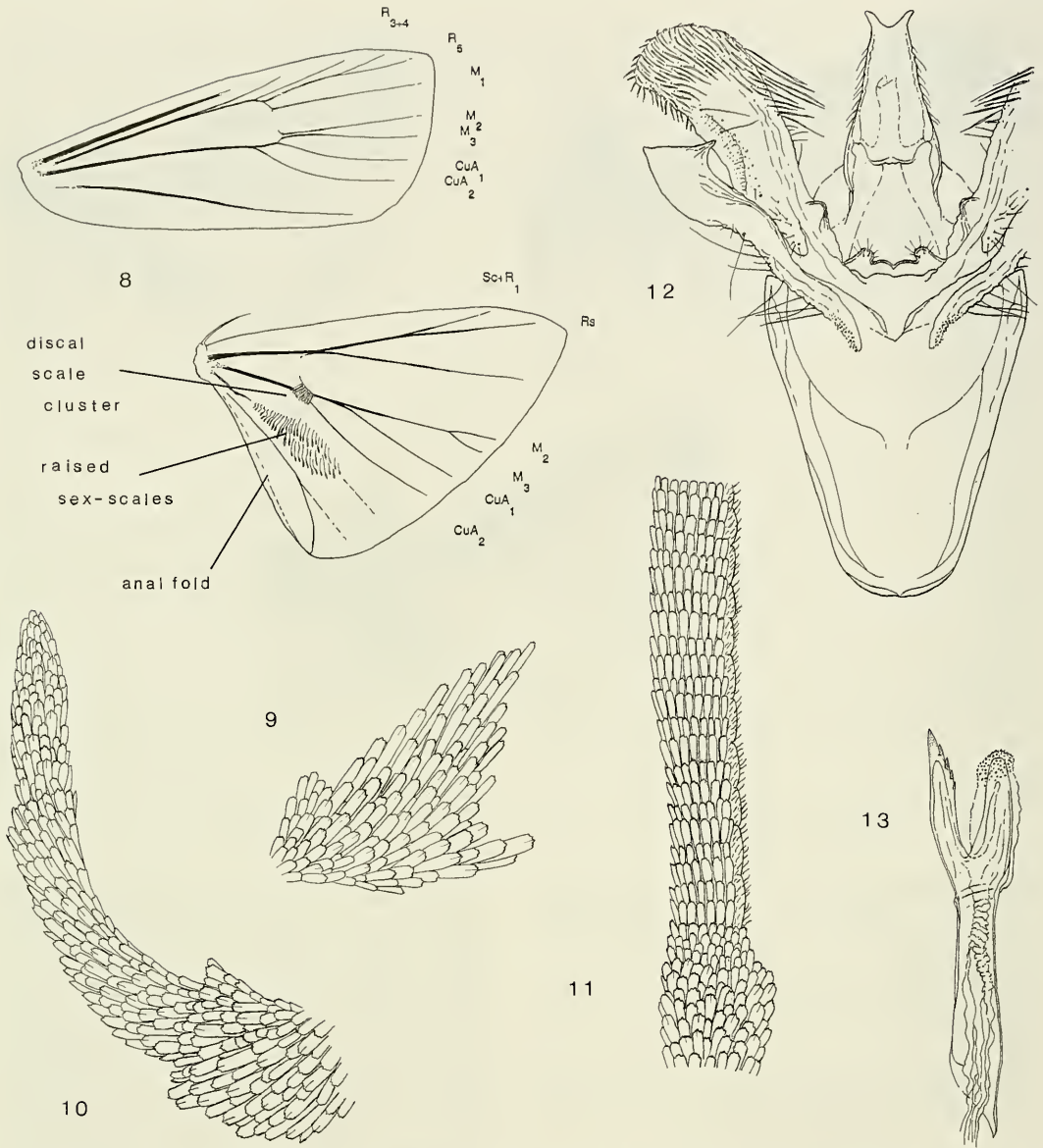
Material examined.—Belize, San Ignacio, 6 April 1989, L. C. Dow, genitalia slide 2741 HHN (δ holotype) [USNM], (1 δ paratype) [NCSU].

***Difundella parana* Neunzig and Solis,
new species**
(Figs. 6, 18–19)

Diagnosis.—The male genitalia (Fig. 18), in general, are more robust than in other *Difundella*. The uncus is quadrate and the vinculum broad and rounded. The hooklike process of the sacculus is strongly curved throughout with its distal part broadened.

Description.—Forewing length 7.5–8.5 mm. *Head*: Vertex ochre; labial palpus upturned, extending above vertex, segment III about $\frac{1}{2}$ as long as II, outwardly ochre and brownish red; maxillary palpus short-scaled and ochre with brownish red basally; anten-

na with shaft of male slightly enlarged and flattened along basal half, with sensilla trichodea (cilia) short, about $\frac{1}{6}$ as long as width of antenna near base of shaft. *Thorax*: Dorsum mostly pale reddish brown. *Forewing*: Dark reddish brown and brown basally mostly pale reddish brown, dusted with white distally; antemedial line weakly developed, pale reddish brown bordered basally by obscure, incomplete, dark reddish brown and black line and bordered distally by more pronounced dark reddish brown and black line; postmedial line weakly developed, white and pale reddish brown, bordered basally by dark reddish brown, moderately well defined line and bordered distally by similar dark colored, but less well defined, line; area between antemedial line and postmedial line with ochre and pale reddish brown, fused discal spots, and with black or dark brown streaks on veins M_1 to



Figs. 8-13. *Difundella corynophora*, male. 8. Right forewing and hindwing (discal scale cluster, patch of raised sex-scales and anal fold are on underside of wing). 9. Left maxillary palpus, frontal view. 10. Left labial palpus, lateral view. 11. Right antenna, basal part, frontal view. 12. Genitalia, ventral view, without aedeagus. 13. Aedeagus.

CuA₂. *Hindwing*: Above hyaline to pale brown in male; underside of male with small cluster of thin, hooked scales near short discal vein at distal end of discal cell, and raised elongate-oval patch of raised sex-scales near 1A; anal fold along 3A.

Male genitalia (Figs. 18-19): Uncus quadrate, broad and acuminate distally (not always apparent unless genitalia spread on slide), simple basally; gnathos reduced, without median process; transtilla absent; juxta in shape of inverted triangular plate

with low, robust, setiferous lateral arms; valva well developed, broadened and with spinelike setae distally; sacculus with large hooklike process strongly curved throughout its length and with distal part expanded, and with large basal tuft of slightly broadened setae; aedoeagus elongate; vesica with patch of many small spines; vinculum broad and rounded. Female unknown.

Holotype:—♂. Curitiba, Paraná, Brazil, 12-III-1975, V. O. Becker, genitalia slide 5739 HHN. [USNM].

Paratypes:—1 ♂. Sete Lagoas, Minas Gerais, Brazil, 720 m., 25-VII-1969, V. O. Becker, genitalia slide 5741 HHN. [VOB]. 1 ♂. Joinville, Santa Catarina, Brazil, 6-XII-1969, V. O. Becker, genitalia slide 5740 HHN [NCSU]. 1 ♂. Nova Teutonia, Brazil, VIII-1961, F. Naumann, genitalia slide 5993 HHN [USNM].

Etymology.—The specific epithet is based on the Brazilian state (Paraná) in which the holotype was collected.

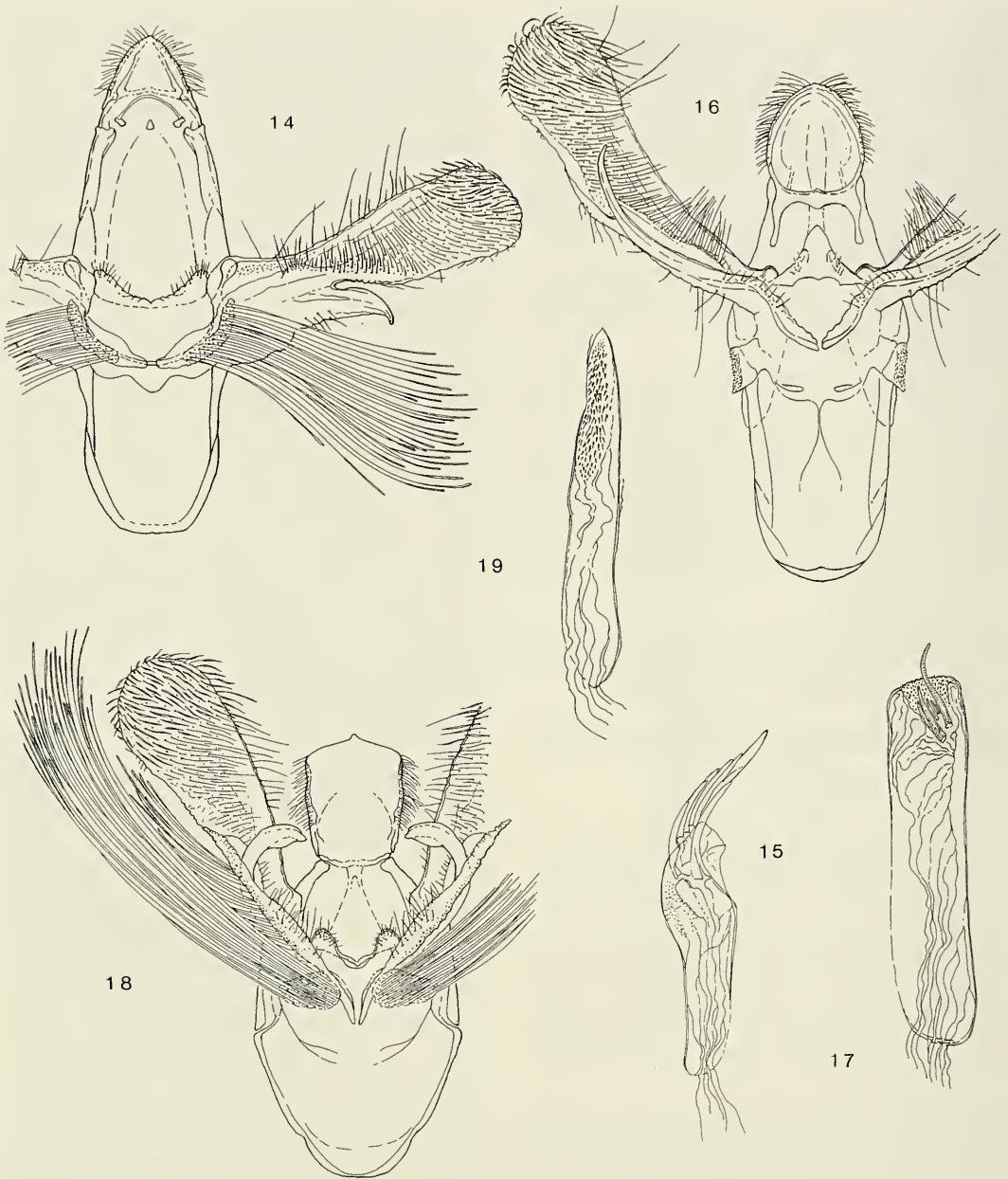
***Difundella unguifera* Neunzig and Solis,
new species**

(Figs. 3, 22–23, 28)

Diagnosis.—The pair of large, uniramous, clawlike, medially projecting processes at the base of the uncus (Fig. 22) are peculiar to this species. Also, the costa of the forewing of the male is strongly produced anteriorly at its base. The female genitalia have near the base of the papillae anales a pair of sclerotized, scobinate lateral lobes (Fig. 28).

Description.—Forewing length 8.5–9.0 mm. *Head*: Vertex dark brown in male, pale brown in female; labial palpus of both sexes upturned, extending above vertex, segment III about $\frac{1}{3}$ as long as II in male, and segment III about $\frac{1}{2}$ as long as II in female, outwardly mostly reddish brown in male, pale reddish brown in female; maxillary palpus short-scaled in both sexes, pale reddish brown with brownish red basally; antenna with shaft of male slightly enlarged and flattened along basal half, with sensilla trichodea (cilia) short, about $\frac{1}{6}$ as

long as width of antenna near base of shaft; antenna of female simple. *Thorax*: Dorsum mostly purplish brown. *Forewing*: Mostly dark purplish brown basally and chiefly pale reddish brown distally; antemedial line moderately well developed, pale reddish brown, weakly bordered basally by a few dark reddish brown scales and bordered distally by stronger line of dark reddish brown, and a few black, scales; postmedial line weakly developed, white and pale reddish brown bordered basally and distally with dark reddish brown line; area between antemedial and postmedial lines with discal spots obscure, reddish brown, fused, and with dark reddish brown streaks on some veins. *Hindwing*: Above hyaline to pale brown in male; mostly brown in female; underside of male with cluster of mostly hooked scales near discal vein at distal end of cell (scales forming cluster longer and more robust than in other species in genus), without elongate-oval patch of raised sex-scales near 1A; anal fold along 3A. *Male genitalia* (Figs. 22–23): Uncus triangular in distal half and with pair of clawlike medially projecting processes at base; gnathos reduced, without median process; transtilla absent; juxta an inverted triangular plate with very weakly developed lateroposterior, setiferous elements; valva well developed, slightly broadened, and with spinelike setae distally; sacculus with long, slender, slightly-curved, pointed process and with large basal tuft of distally broadened setae; aedoeagus short; vesica with two cornuti; vinculum about as long as greatest width. *Female genitalia* (Fig. 28): Integument between base of papillae analis and abdominal segment VIII collar produced laterally, sclerotized and scobinate; apophysis posterioris short and slender; apophysis anterioris short, about as thick as apophysis posterioris; ostium bursae with wide sclerotized, scobinate plate; ductus bursae about as long as corpus bursae, with patch of scobinations distally; corpus bursae membranous (unable to determine if signum present because of spermatophores); ductus bursae attached to



Figs. 14–19. Male genitalia. 14, *Difundella subsutella*, ventral view, without aedeagus. 15, *D. subsutella*, aedeagus. 16, *D. dumiella*, ventral view, without aedeagus. 17, *D. dumiella*, aedeagus. 18, *D. parana*, ventral view, without aedeagus. 19, *D. parana*, aedeagus.

corpus bursae near junction of ductus bursae and corpus bursae.

Holotype.—♂. Estación La Casona, 1,520 m., Res. Biol. Monteverde, Prov. Puntarenas, Costa Rica, Dic. 1992, N. Ob-

ando, LN 253250, 449700, INBio CR 1000895968, genitalia slide 4752 HHN [INBio].

Paratypes.—1 ♀. Monte Verde, Punt. Prov., Costa Rica, 30–31 Jul. 1981, D. H.

Janzen and W. Hallwachs, INBio CR I002043686, genitalia slide 4753 HHN [INBio]. 1 ♀, Turrialba, Sta. Cruz, 1,500 m., Costa Rica, VIII-1981, V. O. Becker, genitalia slide 4926 HHN [USNM].

Etyymology.—The name *unguifera* is derived from the Latin *ungui* (claw) and *fera* (to bear) in reference to the remarkable pair of clawlike processes at the base of the uncus.

***Difundella cancerella* Neunzig and Solis,
new species**
(Figs. 4, 20–21, 27)

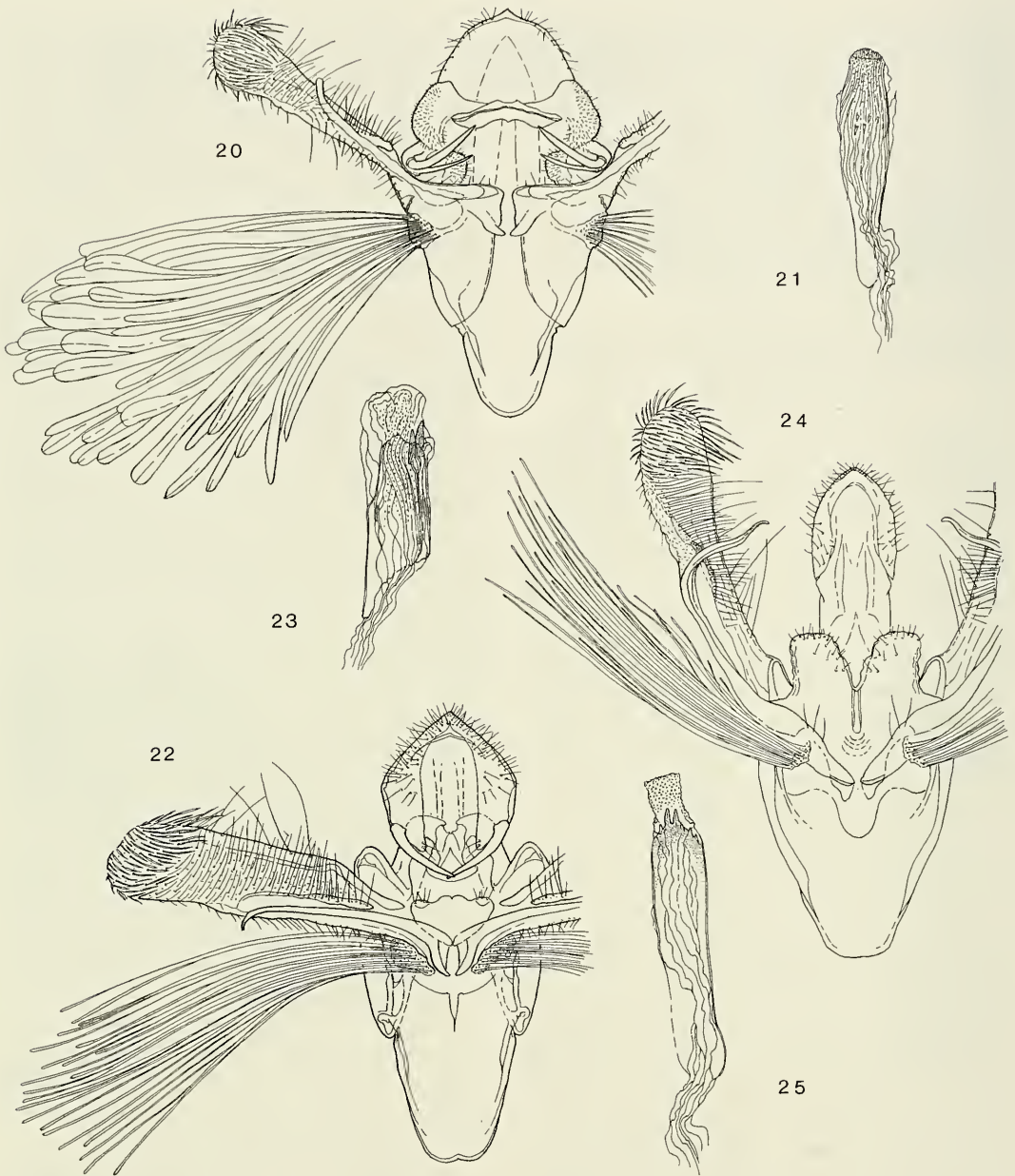
Diagnosis.—A pair of biramous clawlike processes at the base of the uncus are unique to *D. cancerella*. *Difundella cancerella* males also lack the small tuft of scales associated with the discal vein, and the raised, elongate-oval patch of scales near 1A, on the underside of the hindwing. The absence of both of these groups of scales is a feature shared only in *Difundella* with *D. dumiella*; the female genitalia have robust apophyses anteriores (about twice as thick as apophyses posteriores) and the signum is a patch of saw-toothed rows of spines.

Description.—Forewing length 7.0–9.0 mm. **Head:** Vertex white to brownish white; labial palpus of both sexes upturned, extending above vertex, outwardly pale reddish brown to reddish brown; maxillary palpus short-scaled in both sexes, ochre; antenna with shaft of male slightly enlarged and flattened along basal half with sensilla trichodea short, about ½ as long as width of antenna near base of shaft; antenna of female simple. **Thorax:** Dorsum mostly ochre and reddish brown. **Forewing:** Chiefly purplish brown basally and mostly ochre and pale reddish brown distally; antemedial line weakly developed, pale reddish brown bordered basally by obscure, incomplete reddish brown line and bordered distally by stronger reddish brown and black line; postmedial line weakly developed, ochre and pale reddish brown, bordered basally by dark reddish brown, moderately well defined line and distally by a broader, less ob-

vious, mostly purplish brown line; area between antemedial and postmedial lines with fused discal spots ochre and pale reddish brown and with streaks of purplish brown on some veins. **Hindwing:** Above hyaline to pale brown in male, slightly darker in female; underside of male without tuft of scales near discal vein and without elongate-oval raised patch of scales near 1A; with anal fold along 3A. **Male genitalia** (Figs. 20–21): Uncus broad and with pair of slender clawlike, biramous processes basally; gnathos reduced, without median process; transtilla absent; juxta with large rounded, setiferous, lateral lobes; valva slender, slightly enlarged and with spinelike setae distally; sacculus with long, slender, untapered, blunt process and with large basal tuft of distally broadened, scalelike setae; aedoeagus short, slender and swollen medially; vesica with few small cornuti; vinculum about as long as greatest width. **Female genitalia** (Fig. 27): Apophysis posterioris short and slender; apophysis anterioris short and robust (about 2× as wide as apophysis posterioris); ostium bursae with wide sclerotized spined plate; ductus bursae shorter than corpus bursae and with microspines in posterior half; corpus bursae with signum a patch of short, saw-toothed rows of spines; ductus seminalis attached to corpus bursae near junction of ductus bursae and corpus bursae.

Holotype.—♂. Sector Cerro Cocorí, Finca de E. Rojas, 150 m., Prov. Limón, Costa Rica, Oct. 1993, E. Rojas, LN 286000 567500, #2395, INBio CR I001642551, genitalia slide 4754 HHN [INBio].

Paratypes.—2 ♀. Same collection data as holotype except Ene. and Set. 1993 INBio CR I001141159, I001403076, genitalia slides 4755, 5833 HHN [USNM, NCSU]; 1 ♂. P. N. Tapantí, A. C. Amistad, Prov. Cartá, 1150 m., Costa Rica, Ene. 1994, G. Mora, LN 194000 559800, INBio CR I001830436, genitalia slide 5836 HHN [NCSU]; 1 ♂. Paraíso, Pque. Nat. Tapantí, Sect. La Represa, del Puente del Río Porras, 300 m. SE, 1,660 m., Prov. Cartago, Mar.

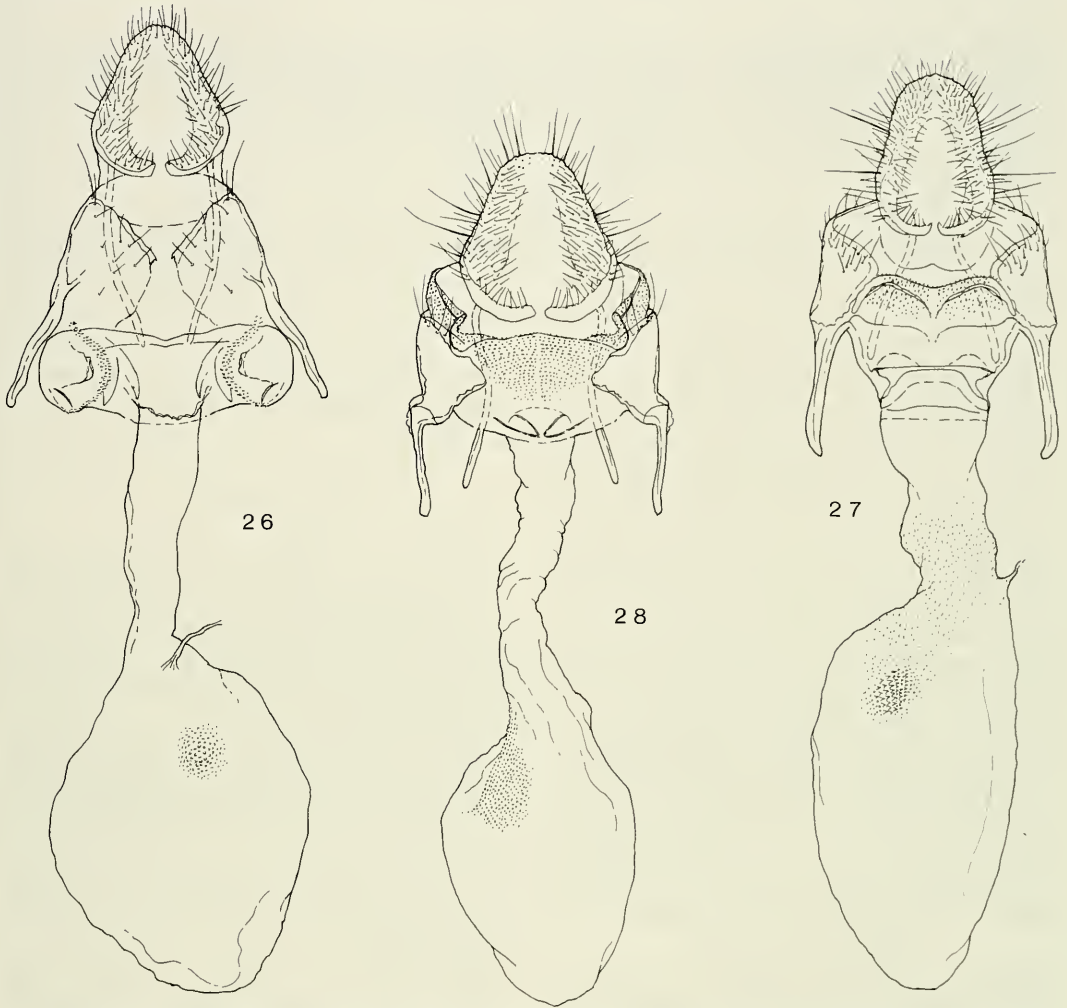


Figs. 20–25. Male genitalia. 20, *Difundella cancerella*, ventral view, without aedeagus. 21, *D. cancerella*, aedeagus. 22, *D. unguifera*, ventral view, without aedeagus. 23, *D. unguifera*, aedeagus. 24, *D. teresina*, ventral view, without aedeagus. 25, *D. teresina*, aedeagus.

2002, R. Delgado, L. N. 186550–560600, #67365, INBio CR INB0003446759, genitalia slide 6192 HHN [INBio].

Etymology.—The biramous clawlike

processes at the base of the uncus resemble the claws of a crab. The specific epithet is a combination of the Latin *cancer* (crab) and the diminutive Latin suffix *-ella*.



Figs. 26–28. Female genitalia, ventral view. 26, *Difundella corynophora*. 27, *D. cancerella*. 28, *D. unguifera*.

***Difundella teresina* Neunzig and Solis,
new species**
(Figs. 7, 24–25)

Diagnosis.—The most distinctive feature of *D. teresina* is the juxta with its large posteriorly projecting lobes (Fig. 24). The angulate saccular spine and the serrate aedeagus also can be used to identify the species (Figs. 24–25).

Description.—Forewing length 7.0 mm. **Head:** Vertex ochre and pale reddish brown; labial palpus upturned, extending above vertex, outwardly a mixture of ochre and reddish brown; maxillary palpus short-

scaled, ochre with brownish red basally; antenna with shaft of male slightly enlarged and flattened along basal half, with sensilla trichodea (cilia) short, about $\frac{1}{5}$ as long as width of antenna near base of shaft. **Thorax:** Dorsum mostly reddish and purplish brown. **Forewing:** Mostly black or purplish black basally and chiefly ochre and pale reddish brown distally; antemedial line weakly developed, pale reddish brown, bordered basally by incomplete dark reddish brown line and bordered distally by a more complete dark reddish brown line; postmedial line somewhat stronger than ante-

medial line, pale reddish brown bordered basally by dark reddish brown line and bordered distally by less obvious dark reddish brown line; area between antemedial and postmedial line with pale reddish brown, fused discal spots, and streaks of dark reddish brown on veins M_1 to CuA_2 . *Hindwing*: Above hyaline to brown along margins; underside of male with small tuft of scales near discal vein at distal end of discal cell, and with elongate-oval patch of raised scales near 1A; anal fold along 3A. *Male genitalia* (Figs. 24–25): Uncus elongate-oval, simple at base; gnathos reduced, without median process; transtilla absent; juxta with large, truncated, posteriorly-projecting, setiferous lobes; valva slender, slightly enlarged and with spinelike setae distally; sacculus with long, slender, tapered, pointed, strongly-bent process, and with large basal tuft of distally, slightly broadened, scalelike setae; aedoeagus slender, serrate distally; vesica scobinate; vinculum about as long as greatest width. Female unknown.

Holotype.—♂. Teresina, 500 m., Goiás, Brazil, 29-V-1994, V. O. Becker and K. S. Sattler, genitalia slide 5312 HHN [USNM].

Etymology.—The specific epithet is based on the type locality (Teresina).

ACKNOWLEDGMENTS

We thank Eugenie Phillips (Instituto Nacional de Biodiversidad, Santo Domingo,

Costa Rica), and Vitor Becker (Brasilia, Brasil) for the opportunity to study specimens of *Difundella* in the INBio collection and in the Becker collection, respectively. Robert L. Blinn (North Carolina State University) took the habitus photographs and reviewed an initial draft of the manuscript. Others who made useful comments to improve the manuscript were Lewis L. Deitz and Brian M. Wiegmann (both North Carolina State University), Jay C. Shaffer (George Mason University), and David A. Nickle (Systematic Entomology Laboratory, USDA).

LITERATURE CITED

- Dyar, H. G. 1914. Report on the Lepidoptera of the Smithsonian Biological Survey of the Panama Canal Zone. *Proceedings of the United States National Museum* 47: 139–350.
- Heinrich, C. 1956. American moths of the subfamily Phycitinae. *United States National Museum Bulletin* 207: 1–581.
- Neunzig, H. H. 1986. New records of Phycitinae from Mexico and a description of a new genus and species (Lepidoptera: Pyralidae). *Proceedings of the Entomological Society of Washington* 88: 122–126.
- Neunzig, H. H. and L. C. Dow. 1993. The Phycitinae of Belize (Lepidoptera: Pyralidae). *North Carolina Agricultural Research Service Technical Bulletin* 304: 1–131.
- Schaus, W. 1913. New species of Heterocera from Costa Rica. *Annals and Magazine of Natural History* 11: 234–262.